

Title (en)
PROCESS FOR PRODUCTION OF NON-ALKALINE GLASS AND NON-ALKALINE GLASS

Title (de)
VERFAHREN ZUR HERSTELLUNG VON NICHTALKALISCHEM GLAS UND NICHTALKALISCHES GLAS

Title (fr)
PROCÉDÉ DE PRODUCTION D'UN VERRE NON ALCALIN ET VERRE NON ALCALIN

Publication
EP 1911725 A4 20100707 (EN)

Application
EP 06780807 A 20060705

Priority
• JP 2006313431 W 20060705
• JP 2005197528 A 20050706

Abstract (en)
[origin: EP1911725A1] To provide a process for producing an alkali free glass for effectively suppressing bubbles, and an alkali free glass produced by the process, which is suitable as a glass substrate for flat panel displays and has few bubbles. A process for producing an alkali free glass containing substantially no alkali metal oxide, which comprises melting a glass starting material having a matrix composition of the following composition, and subjecting the molten glass to a treatment process of removing bubbles under reduced pressure, stirring or transferring under a condition where the molten glass is in contact with a platinum member, wherein the starting material is prepared so as to contain SnO₂ in an amount of from 0.01 to 2.0% per 100% of the total amount of the above matrix composition; the starting material is melted under heating at from 1,500 to 1,650°C; then bubbles contained in the molten glass are permitted to rise to the surface of the molten glass, together with oxygen bubbles generated by a reduction reaction in which SnO₂ in the molten glass is reduced to SnO; and in the above treatment process, the oxygen bubbles generated at the interface between the molten glass and the platinum member are permitted to be absorbed by an oxidation reaction in which SnO is oxidized to SnO₂, under a condition where the molten glass is from 1,300 to 1,500°C. Composition as represented by the mass percentage: SiO₂ 58.4 to 66.0%, Al₂O₃ 15.3 to 22.0%, B₂O₃ 5.0 to 12.0%, MgO 0 to 6.5%, CaO 0 to 7.0%, SrO 4 to 12.5%, BaO 0 to 2.0%, MgO+CaO+SrO+BaO 9.0 to 18.0%.

IPC 8 full level
C03B 5/225 (2006.01); **C03C 3/091** (2006.01)

CPC (source: EP KR US)
C03B 5/225 (2013.01 - EP KR US); **C03B 5/2252** (2013.01 - EP US); **C03C 1/004** (2013.01 - EP US); **C03C 3/091** (2013.01 - EP KR US); **Y02P 40/57** (2015.11 - EP US)

Citation (search report)
• [XY] JP H10324526 A 19981208 - ASAHI GLASS CO LTD
• [XY] JP 2004284949 A 20041014 - ASAHI GLASS CO LTD
• [Y] DE 10138108 A1 20030227 - SCHOTT GLAS [DE]
• [Y] JP 2000239023 A 20000905 - NIPPON ELECTRIC GLASS CO
• [A] US 2001039812 A1 20011115 - ROMER HILDEGARD [DE], et al
• See references of WO 2007004683A1

Cited by
EP2377821A1; EP2128101A1; US7854144B2; US8598055B2; USRE46337E; EP2444379A4

Designated contracting state (EPC)
DE FR

DOCDB simple family (publication)
EP 1911725 A1 20080416; EP 1911725 A4 20100707; CN 101213148 A 20080702; CN 101213148 B 20120411; KR 100977699 B1 20100824; KR 20080022575 A 20080311; TW 200722393 A 20070616; TW I377182 B 20121121; US 2008127679 A1 20080605; WO 2007004683 A1 20070111

DOCDB simple family (application)
EP 06780807 A 20060705; CN 200680024280 A 20060705; JP 2006313431 W 20060705; KR 20087000303 A 20060705; TW 95124691 A 20060706; US 96953208 A 20080104